

Claims

1. A method for transferring at least one data flow by creating at least one connection between a mobile station and network on a packet radio service of a telecommunication system, said at least one connection constituting a temporary block flow on one or more packet data channels each of which being assigned to a different time slot of a downlink TDMA (Time Division Multiple Access) frame, wherein at least two simultaneous temporary block flows are assigned for transferring the at least two data flows, and uplink control information concerning a temporary block flow is transferred on an associated uplink control channel that is assigned to a time slot of an uplink TDMA frame, **characterised** in that the at least two associated uplink control channels relating respectively to the at least two simultaneous downlink temporary block flows are transferred on one and same uplink TDMA time slot, and at least one of said at least two simultaneous downlink temporary block flows is transferred on one or several downlink TDMA time slot(s), each of which is different from the downlink TDMA time slot that corresponds to the uplink TDMA time slot, which is used for said at least two uplink control channels.
2. A method according to claim 1, **characterised** in that said uplink control channel is assigned in a downlink message, and said message includes information on said uplink control channel.
- 3 A method according to claim 2, **characterised** in that the said message is Packet Downlink Assignment.
4. A method according to claim 2, **characterised** in that said information on said uplink control channel comprises the number of the time slot for said control channel.
5. A method according to claim 1, **characterised** in that said packet radio service is the general packet radio service (GPRS).
6. A method according to claim 3, **characterised** in that the uplink control channel comprises the packet associated control channel (PACCH) associated to said downlink temporary block flow.

7. A method according to claim 6, **characterised** in that a single uplink block of said packet associated control channel (PACCH) is reserved with a relative reserved block period field (RRBP) sent on said downlink temporary block flow.
- 5 8. A method according to claim 6, **characterised** in that said packet associated control channel (PACCH) contains uplink control information including the temporary flow identifier (TFI) and timeslot number of said temporary block flow.
- 10 9. A method according to claim 1, **characterised** in that the at least two downlink temporary block flows are transferred on at least two downlink packet data channels, and uplink data is transferred on at least one packet data channel, wherein the number of said downlink packet data channels is greater than the number of the uplink packet data channels.
- 15 10. A method according to claim 7, **characterised** in that said uplink control information is transferred on the same time slot which is used by one of said at least one uplink packet data channels.
- 20 11. A method according to claim 1, **characterised** in that the said uplink control information is transferred on an uplink time slot, the number of which corresponds to the number of a downlink time slot on which one of said packet data channels transferring one of said at least two temporary block flows is allocated.
- 25 12. A telecommunications system for transferring at least one data flow by creating at least one connection between a mobile station and network on a packet radio service of a telecommunication system, said at least one connection constituting a temporary block flow on one or more packet data channels each of which being assigned to a different time slot of a downlink TDMA (Time Division Multiple Access) frame, wherein at least two simultaneous temporary block flows are assigned for transferring the at least two data flows and uplink control information concerning a temporary block flow is transferred on an associated uplink control channel that is assigned to a time slot of an uplink TDMA frame, **characterised** in that it comprises means for transferring uplink control information relating to the at least two simultaneous temporary block flows on the at least two associated uplink control channels respectively, and said at least two associated uplink control channels are transferred on one and same uplink TDMA time slot, and at least one of said at least two simultaneous downlink temporary block flows is transferred on one or several downlink TDMA time slot(s), each of which is
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different from the downlink TDMA time slot that corresponds to the uplink TDMA time slot, which is used for said at least two uplink control channels.

13. A telecommunications system according to claim 12, **characterised** in that
5 said uplink control information is transferred on an uplink time slot, the number of which corresponds to the number of a downlink time slot on which one of said packet data channels transferring one of said at least two temporary block flows is allocated.

10 14. A telecommunications system according to claim 12, **characterised** in that said packet radio service is the general packet radio service (GPRS).

15 15. A mobile station comprising means for transmitting/receiving at least one data flow on at least one connection between the mobile station and network on a packet radio service of a telecommunication system, said at least one connection
20 constituting a temporary block flow on one or more packet data channels each of which being assigned to a different time slot of a downlink TDMA (Time Division Multiple Access) frame, wherein at least two simultaneous temporary block flows are assigned for transferring the at least two data flows and uplink control
25 information concerning a temporary block flow is transferred on an associated uplink control channel that is assigned to a time slot of an uplink TDMA frame, **characterised** in that it comprises means for transmitting uplink control information relating to the at least two simultaneous temporary block flows on the at least two associated uplink control channels respectively, and the at least two associated
30 uplink control channels are transferred on one and same uplink TDMA time slot, and at least one of said at least two simultaneous downlink temporary block flows is transferred on one or several downlink TDMA time slot(s), each of which are different from the downlink TDMA time slot that corresponds to the uplink TDMA time slot, which is used for said at least two uplink control channels.

35 16. A mobile station according to claim 15, **characterised** in that it comprises means for receiving a downlink message field and means for reading from said message information on said uplink control channel to be used related to a determined downlink temporary block flow.

17. A mobile station according to claim 16, **characterised** in that said information on said uplink control channel comprises the number of the time slot for said control channel.

18. A mobile station according to claim 15, **characterised** in that it comprises means for receiving the at least two simultaneous downlink temporary block flows on at least two downlink packet data channels, and means for transmitting uplink data on at least one packet data channel, wherein the number of said downlink packet data channels is greater than the number of the uplink packet data channels.

19. A mobile station according to claim 18, **characterised** in that said uplink control information is transferred on the same time slot which is used by one of said at least one uplink packet data channels.

20. A mobile station according to claim 15, **characterised** in that said uplink control information is transferred on an uplink time slot, the number of which corresponds to the number of a downlink time slot on which one of said packet data channels transferring one of said at least two temporary block flows is allocated.

21. A mobile station according to claim 15, **characterised** in that said packet radio service is the general packet radio service (GPRS).